## IN THE UNITED STATES DISTRICT COURT FOR THE NORTHERN DISTRICT OF OKLAHOMA

STATE OF OKLAHOMA,	)
Plaintiff,	
v.	Case No. 05-cv-329-GKF(SAJ)
TYSON FOODS, INC., et al.,	)
Defendants	) . )

## **DECLARATION OF R. JAN STEVENSON, Ph.D.**

I, R. Jan Stevenson, Ph.D., state the following:

- 1. I am a Professor of Zoology and an Aquatic Ecologist. I have been retained by the Oklahoma Attorney General to provide evaluation, advice and opinions concerning past, current, and potential future conditions of the rivers and streams of the Illinois River Watershed (IRW) and to render opinions and conclusions about those conditions and their cause.
- 2. On May 22, 2008, my Expert Report was submitted to the Defendants. My Errata was submitted on August 5, 2008, and I prepared a Second Errata dated September 26, 2008. My deposition was scheduled to be taken on September 30, 2008, but has been rescheduled at the request of the Defendants for November 3-4, 2008. The August 5, 2008 Errata mostly consisted of clarifying corrections, corrections of typographical and grammatical errors, and correcting inadvertent omissions. Although the Errata document consisted of 50 pages, the last 34 pages included a record of the changes made in the *Word* document that were already shown on the previous pages. As discussed in detail



below, I also corrected my calculations concerning future injury to the IRW because after I submitted my Report I determined that my original method of calculation of the expected change of total phosphorus concentrations -linear regression of Dr. Engel's modeling results for the Illinois River at Tahlequah, Baron Fork near Eldon and the Caney Creek – included a miscalculation and was not as straightforward and accurate as long-term averages of those total phosphorus concentrations that are also predicted in Dr. Engel's model (Engel 2008). I believe my calculation error resulted from the press of other responsibilities I have as a college professor that coincided with the deadline for submitting my Expert Report. My Second Errata of September 26, 2008 was necessary because Dr. Engel reran his model to correct a coding error in his model and, as stated above, my evaluation of the impacts of historical and future impacts of phosphorus to IRW rivers and streams is based on Dr. Engel's modeling results.

- 3. I have reviewed the Defendants' Motion and I have also reviewed the Declaration of Defendants' retained expert Victor Bierman, Jr. and the Declaration of Defendants' retained expert Timothy Sullivan that are attached to the Motion.
- 4. These Errata items discussed above did not change my opinions, did not provide any new analysis or opinion, did not provide any new sections to my Report, and did not provide any new data. My errata were not intended to "bolster" my opinion. These errata were made to correct errors and omissions. Except for a portion of my analysis concerning the effects of alternative poultry waste management scenarios on the IRW streams in the future, my analysis, overall conclusions, and opinions are the same. And with regard to the future effects of these management scenarios, the effect trends remain the same.

- 5. I believe the Defendants and their experts have exaggerated the effect of my change in calculations on my conclusions. For example, The Defendants' Motion asserts that "Dr. Stevenson's new calculation method substantially changes his reported conclusions resulting in a supposedly increased TP [total phosphorus] concentration in the "control" scenario..." The control management scenario from Dr. Engel's model assumes that poultry waste land application continues at its present rate over the next 50 years. I use Dr. Engel's analysis of the impact of such an assumption on the phosphorus concentrations in IRW streams. Due to my miscalculation using the regression analysis my original analysis did indicate a 12% decrease in TP affected streams in the control management scenario. Dr. Engel's modeling data did not show this reduction and this was one reason why I reviewed my calculations. Based on my corrected analysis set out in the August 5, 2008 Errata, I concluded that there was very little change to the quantity of already injured streams if poultry waste land application remains the same: "Changes in modeled TP concentrations varied relatively little in the control management scenario in which litter application was assumed to continue at the same rate over the next 50 years." (See first 3 lines of 7<sup>th</sup> full paragraph of Errata. Also, the Tables in the Errata show a 3.67% or 3.32% increase in injured streams if the land application continues as is.)
- 6. Defendants Motion also states that "Dr. Stevenson's new calculation method substantially changes his reported conclusions resulting in ... a five-fold TP concentration increase in the "continued growth" scenario..." Comparing the TP concentration increase in the "continued growth" scenario in the Report (Table 5.2) with the same analysis in the August 5, 2008 Errata (Table 5.1) the TP concentration for respective watersheds was less than a two fold difference.

7. Finally, it is true that my Errata changed the results of my analysis and found that there would be a greater reduction in injured stream miles if buffer strips were included with cessation of land application than looking at the effects of cessation alone. However, this conclusion is again consistent with Engel's modeling results and would have been in my original report had I not mistakenly used the regression analysis. As stated above, I originally employed a linear regression calculation that did not estimate 2007 and 2057 conditions accurately due to a calculation error. It was also not as straightforward as the averages of the 2007 and 2057 predicted conditions from Dr. Engel's models.

I declare under penalty of perjury, under the laws of the United States of America, that the foregoing is true and correct.

Executed on the 26 day of September, 2008.

R. Jan Stevenson, Ph.D.

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